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JOINT PHOTOGRAPHIC INTELLIGENCE REPORT

ANTIMISSILE TEST COMPLEX

SARY SHAGAN, USSR

CHANGES SINCE [redacted] 25X1D

PIC/JR-3/61
April 1961

Declassification Review by NIMA/DoD

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PREFACE

This joint photographic intelligence report has been prepared by the Army, Navy, and Central Intelligence Agency in answer to CIA requirement DDI/SI/R-2/61. It presents information on the Antimissile Test Complex, Sary Shagan, USSR, resulting from an analysis of [redacted] KEYHOLE missions [redacted] and supplements the information based on the [redacted] TALENT coverage, which is given in PIC/JR-1010/61 (see document listed under References).

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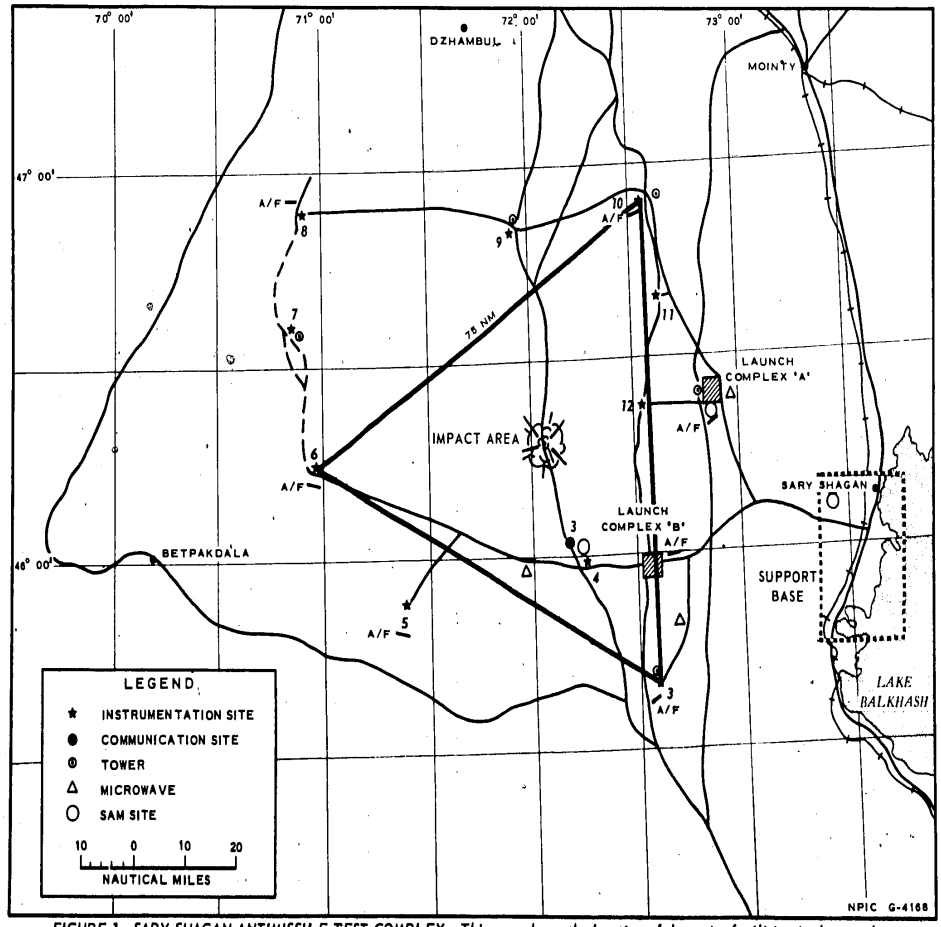

FIGURE 1. SARY SHAGAN ANTIMISSILE TEST COMPLEX. This map shows the location of the major facilities in the complex.

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INTRODUCTION

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The Sary Shagan Antimissile Test Complex (see Figure 1) is covered in whole or in part by [redacted] photographic missions: TALENT Mission [redacted] Until the latest coverage it was felt that many facilities had not been disclosed by the [redacted] photography, on which there is considerable cloud cover. The [redacted] mission covers only the western instrumentation sites, but confirms the site identifications in this area made from the [redacted] photography and reveals an interferometer at Site 6. The [redacted] mission, despite haze in some areas, provides complete and cloud-free coverage of the entire complex and shows that all major facilities were identified from the [redacted] photography. Although the small scale and snow cover preclude detailed interpretation, in [redacted] the complex appeared basically unchanged since [redacted] Together, the [redacted] KEYHOLE missions have made it possible to map the area accurately and to update previous information; for example, besides the previously unidentified interferometer, they show some additions at other facilities.

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SUPPORT BASE

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Although little new construction is apparent in the Support Base on the later photography, many buildings in the Main Housing Area for which only walls or initial construction was visible in [redacted] had evidently been completed by [redacted] (see Figure 2).

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Extending at a right angle to the main runway at the airfield is a strip 5,175 feet long, probably dirt, which was present on the [redacted] photography but which had been overlooked until completely revealed by Mission [redacted] The strip is clear of snow, but the small scale precludes determination of whether it was cleared mechanically for use or merely blown clear by wind.

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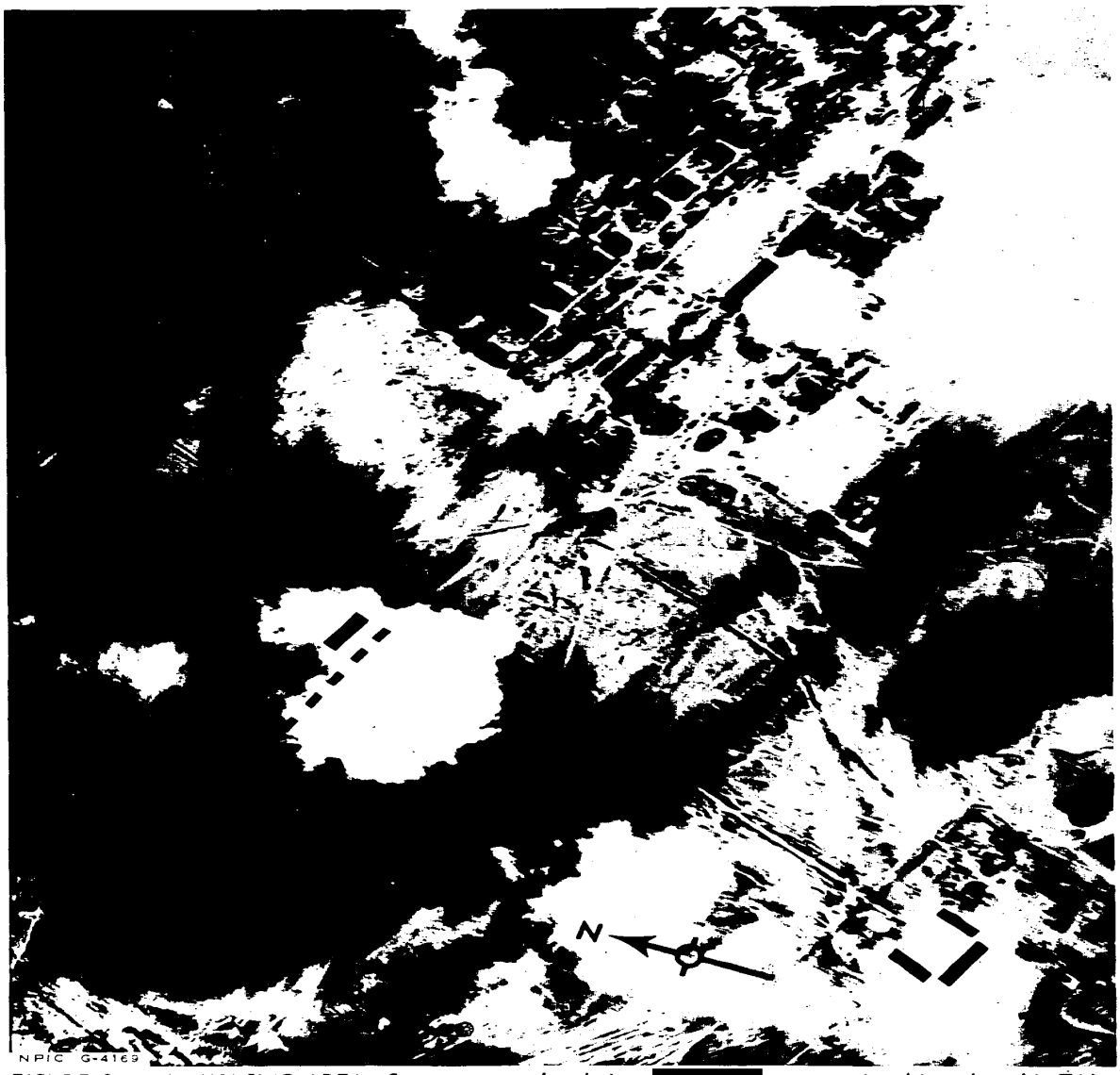

FIGURE 2. MAIN HOUSING AREA. Structures completed since [redacted] *are overprinted in red on this TALENT photograph.*

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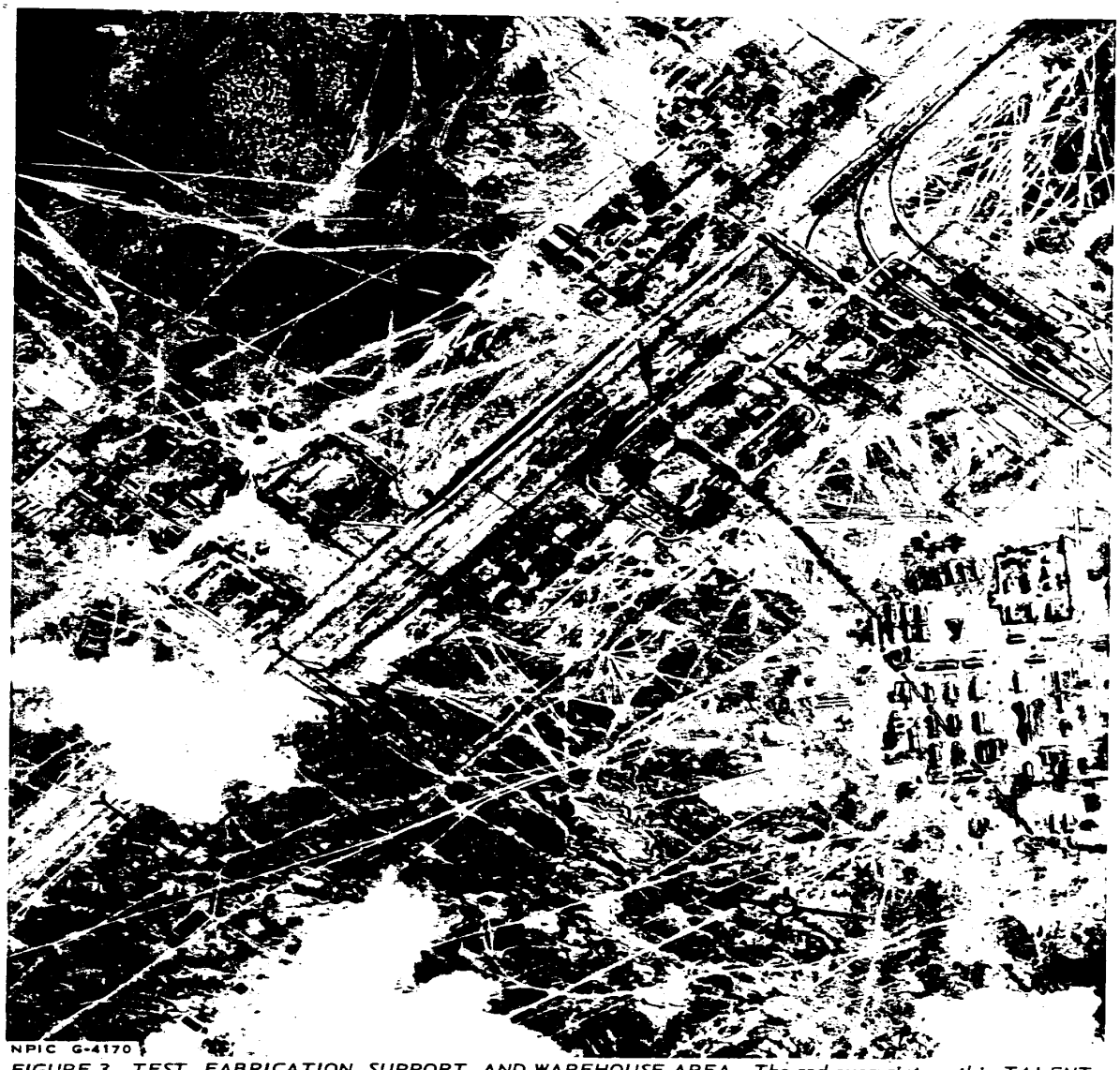

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FIGURE 3. TEST, FABRICATION, SUPPORT, AND WAREHOUSE AREA. The red overprint on this TALENT photograph shows changes since [redacted]

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The later photography also shows two additions in the Support Base since [redacted] one definite hexadic SAM site near the airfield and a possible SAM site on the coast of Lake Balkhash south of the main part of the base. There is no evidence of either of these sites on the [redacted] photography. 25X1D

Within the Test, Fabrication, Support, and Warehouse Area, the buildings to house the cold-flow test equipment appear to be completed as far as outward features go. Also, as shown by the red overprint on Figure 3, a road has been constructed joining the Fabrication Facility with the main road leading to the launch complexes. This lends more weight to the hypothesis that the Fabrication and Probable Cold-Flow Test Facilities are related specifically to a missile system or systems to be used at the Sary Shagan complex. Cold-flow testing is indicative of a liquid-propelled missile, but there is no evidence as to whether such a missile would be used in a countermissile role or a counter-ESV role, if a counter-ESV system is in the R&D stage. Another change since [redacted] is that in the Warehouse Facility four structures appear to have been roofed. 25X1D

The 16,300-foot dirt strip appears unchanged. The western road leading to it on the later coverage appeared little used on the [redacted] photography. Despite the recent snow cover in [redacted] the strip was relatively clear at that time and gave the appearance of having been plowed or cleared. 25X1D 25X1D

Owing to the small scale, no changes or additions could be noted in any of the electronics sites in the Support Base.

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LAUNCH COMPLEX A

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A hexadic SAM site was added to Launch Complex A between [redacted] (see Figure 4). This site, which is near the Headquarters and Administrative Area, is an operational site, and not an R&D

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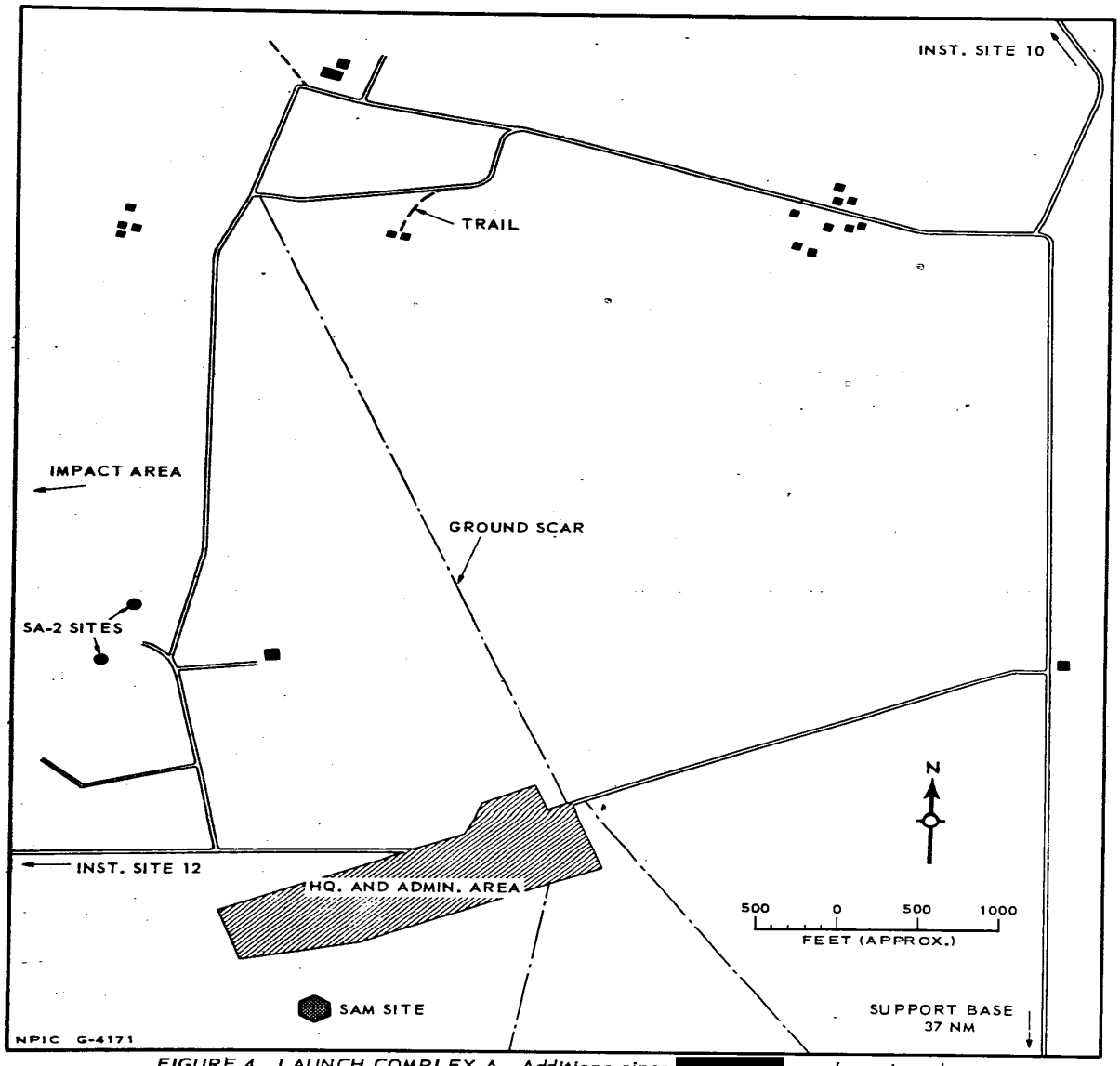

FIGURE 4. LAUNCH COMPLEX A. Additions since [redacted] are shown in red.

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site, as are the two sites in the SAM SA-2-Type Launch Area in the western part of the launch complex. The [redacted] photography shows that revetments have been dug for the site, but no security fencing or support buildings are evident. Also new since [redacted] is a trapezoid-shaped area (not shown on Figure 4) which is adjacent to the R&D SAM sites. The function of this area cannot be determined at present. No other changes have been noted in the facilities of this launch complex.

LAUNCH COMPLEX B

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In this launch complex three launch pads * had been previously identified, but snow cover on the [redacted] photography obliterates all traces of them except for the service roads. Between the Launch Area and the Support Area is a new operational-type hexadic SAM site. This site has
25X1D support buildings and a security fence. There was no indication on the [redacted] photography of any construction in the area now occupied by this SAM site. Ground conditions make it impossible to indicate the amount or type of activity in the launch complex, other than the fact that the road to the Launch Area, but not up to the pads, appears to have been very recently cleared of snow.

INSTRUMENTATION SITES

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All the instrumentation sites have been photographed at least twice. In [redacted] all the sites were covered, and Sites 5, 6, 7, and 8 were also covered in [redacted]. Sites 5 and 6 can be seen more clearly on the KEYHOLE than on the TALENT coverage. Pertinent information on Sites 3 through 12 (those around the Impact Area) derived from KEYHOLE coverage follows.

* CIA believes that there is one definite and two probable pads.

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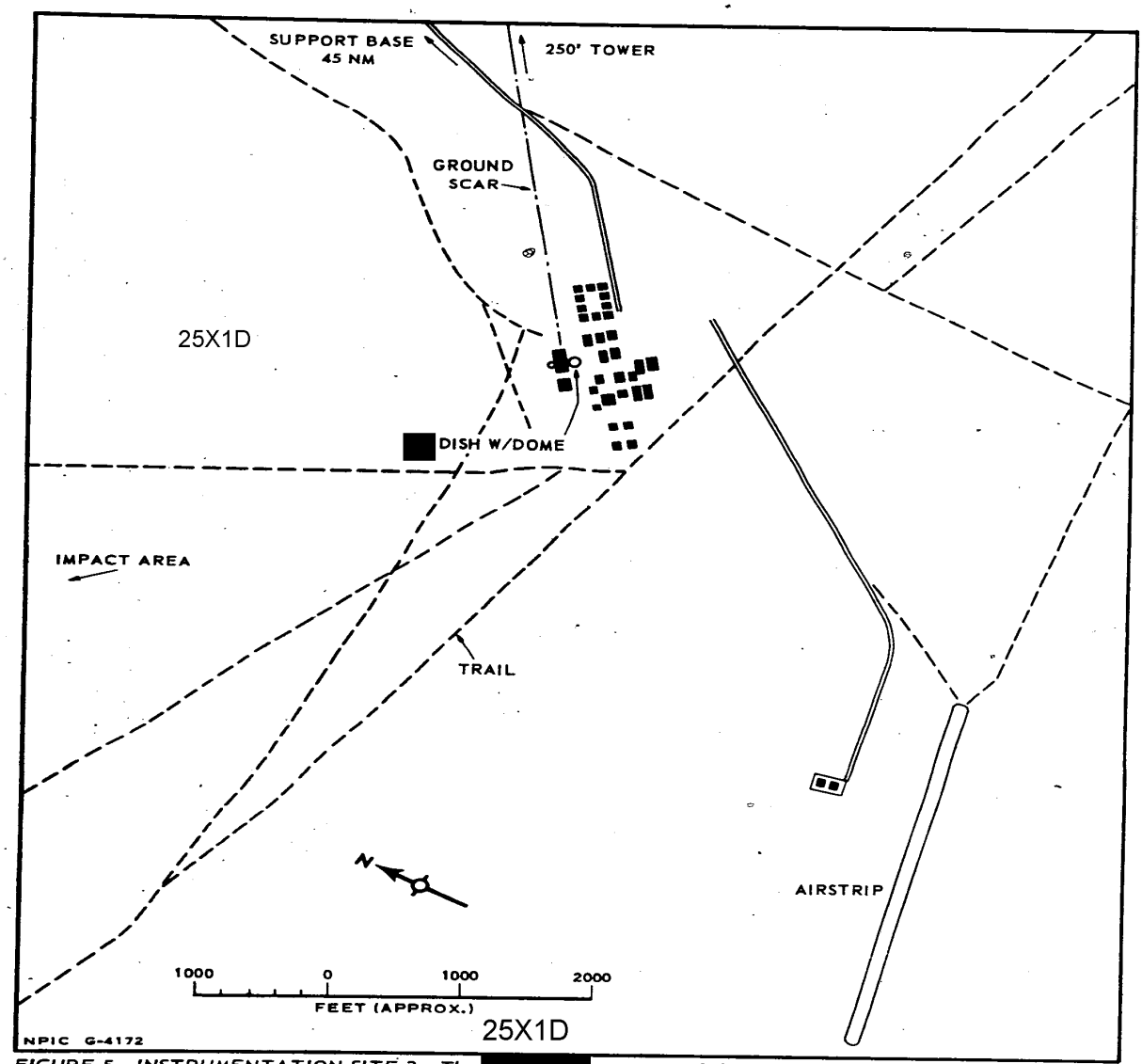

FIGURE 5. INSTRUMENTATION SITE 3. The [redacted] coverage of this site is poor; this drawing is based on the [redacted] photography.

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25X1D Instrumentation Site 3 25X1D

On the [redacted] coverage, this site appears only on one far oblique photograph and is obscured by haze. The most outstanding feature noted was a [redacted] radar dish with a wall 110 feet in diameter surrounding the base. The [redacted] photography shows that the wall has been built up and a domed roof added. Figure 5 shows the general layout of the site as seen on the latest coverage. The dome appears to be a hemisphere, rather than a truncated sphere like that at Instrumentation Site 6. This interpretation is based on shadow analysis of the [redacted] KEYHOLE photography, and results are less accurate than they would be from TALENT material. While the addition of a dome to the [redacted] dish does not indicate that it

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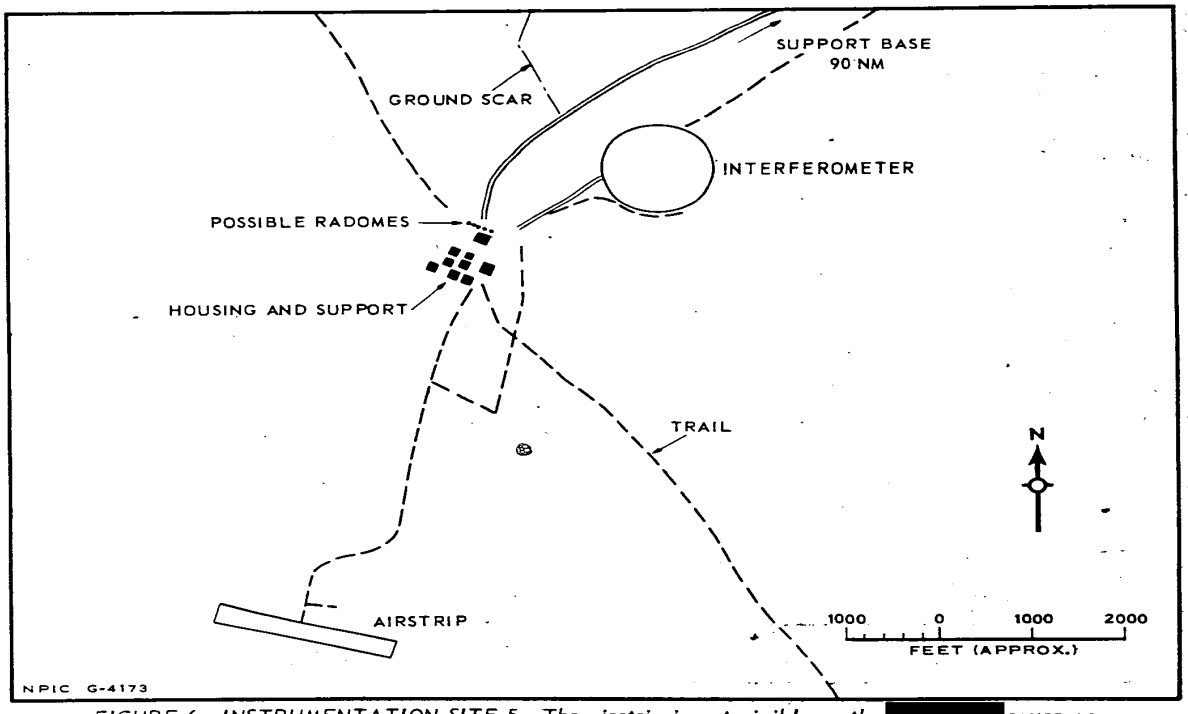

FIGURE 6. INSTRUMENTATION SITE 5. The airstrip is not visible on the [redacted] coverage.

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was inoperative in [redacted], it may indicate a necessity for additional all-weather protection. No other new facilities at the site were noted.

Instrumentation Site 4

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No changes at this site since [redacted] were noted on the KEYHOLE photography.

Instrumentation Site 5 25X1D

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This site, visible on oblique TALENT photography in [redacted] is most clearly seen on the [redacted] KEYHOLE coverage. This later photography shows the interferometer previously identified and also an airstrip not noted before (see Figure 6).

Instrumentation Site 6

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Perhaps the greatest speculation in regard to the instrumentation sites has concerned Site 6 (see Figure 7). Visible on the [redacted] coverage, through a break in heavy clouds, was a dome shaped like a truncated sphere, with a housing area in the background. One hypothesis is that the dome is a Luneberg lens. The domes at Sites 3 and 6 are shown in Figure 8. It was later noticed that Sites 3, 6, and 10 form an equilateral triangle 75 nm on a side. Site 10 contains the base, and wall, for a [redacted] dish like that at Site 3. Both KEYHOLE coverages of Site 10 are cloud-free, but the [redacted] mission shows the site more clearly. At Site 6, in addition to the housing area and 110-foot dome, the [redacted] photography shows a previously unidentified interferometer and an airstrip. Also, there appears to be a tower similar to those at Sites 3 and 10, which may be boresighting towers for the radar equipment.

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Instrumentation Sites 7 and 8 25X1D

Although the [redacted] TALENT coverage of these two sites is excellent, there has been difficulty, because of cloud cover over other facilities, in

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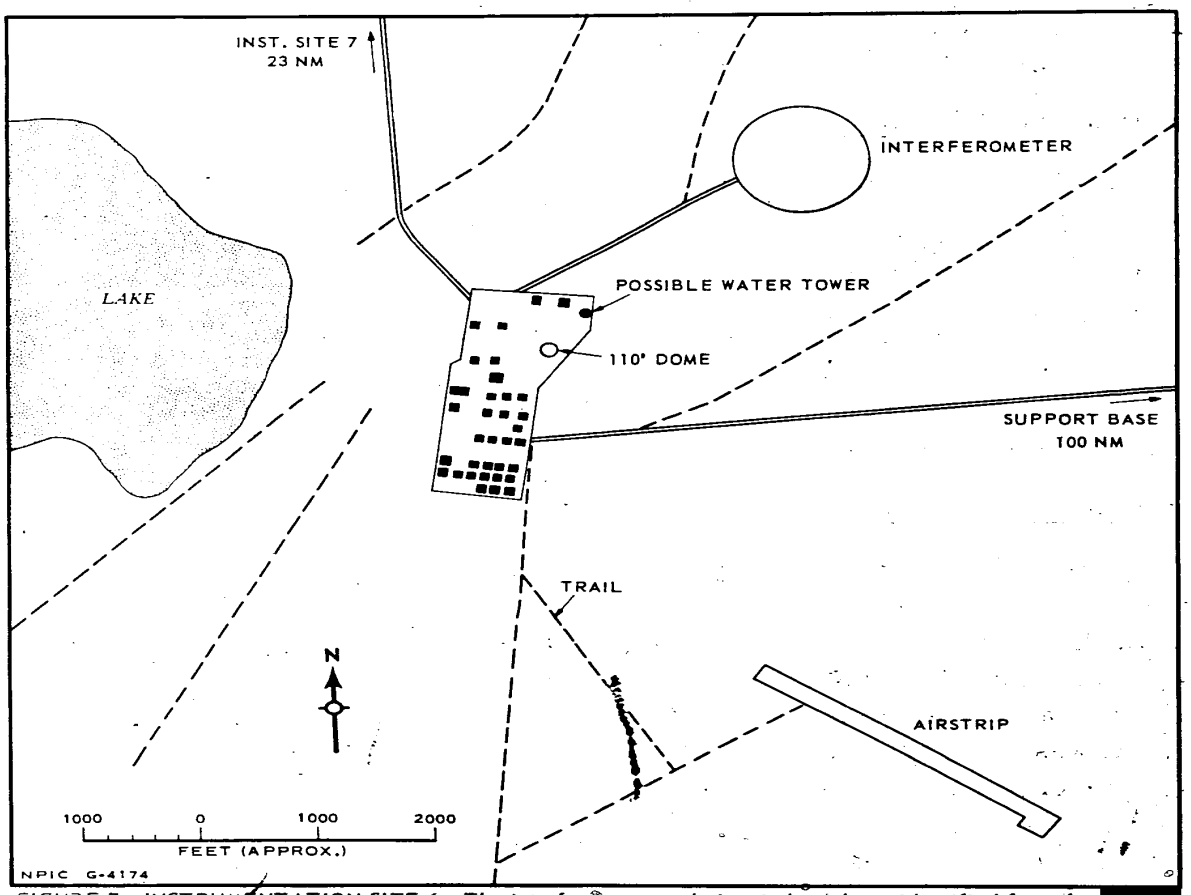

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FIGURE 7. INSTRUMENTATION SITE 6. The interferometer and airstrip have been identified from the [redacted] photography.

locating the sites accurately in relation to the rest of the antimissile complex. This relationship, clearly shown by the KEYHOLE coverage, is depicted in Figure 1. This map is based on the [redacted] KEYHOLE missions; when one mission showed an area more clearly, that photography was used. However, details are precluded by the small scale and ground conditions.

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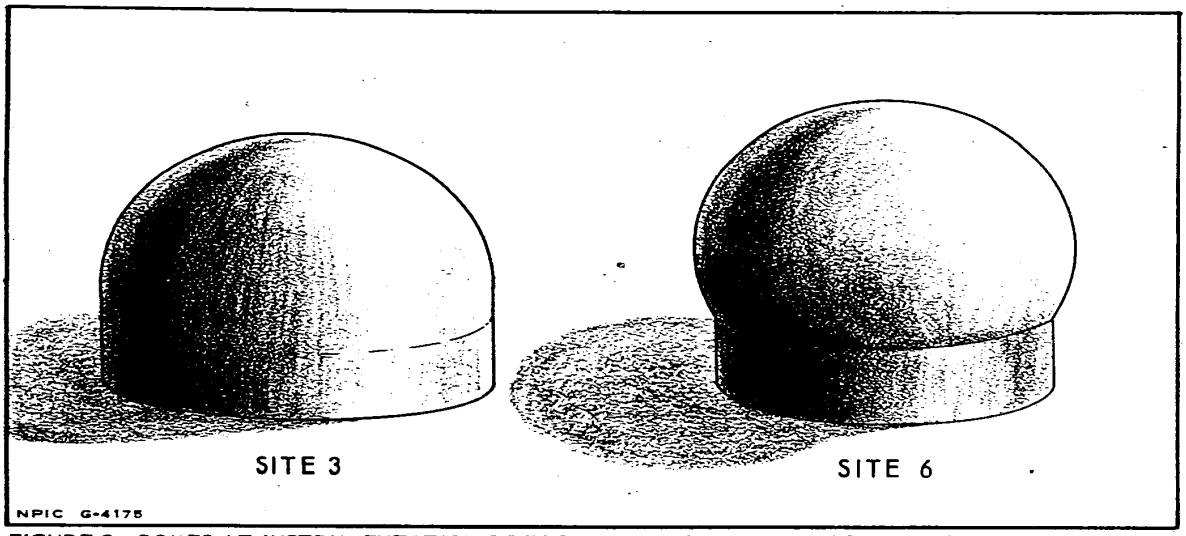

FIGURE 8. DOMES AT INSTRUMENTATION SITES 3 AND 6. These sites and Site 10, which has the base and wall for a dish, form an equilateral triangle.

Instrumentation Site 9

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The [redacted] coverage confirms the presence of an interferometer at this site.

Instrumentation Sites 10 and 11

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Neither of these sites was covered in [redacted] On the [redacted] photography, haze (or possibly blowing snow) precludes noting any details.

Instrumentation Site 12

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This site as it appears on the [redacted] photography is shown in Figure 9. Although lacking in detail, the drawing shows the positioning of the main features of the site with respect to the Impact Area and makes possible a comparison with the other sites.

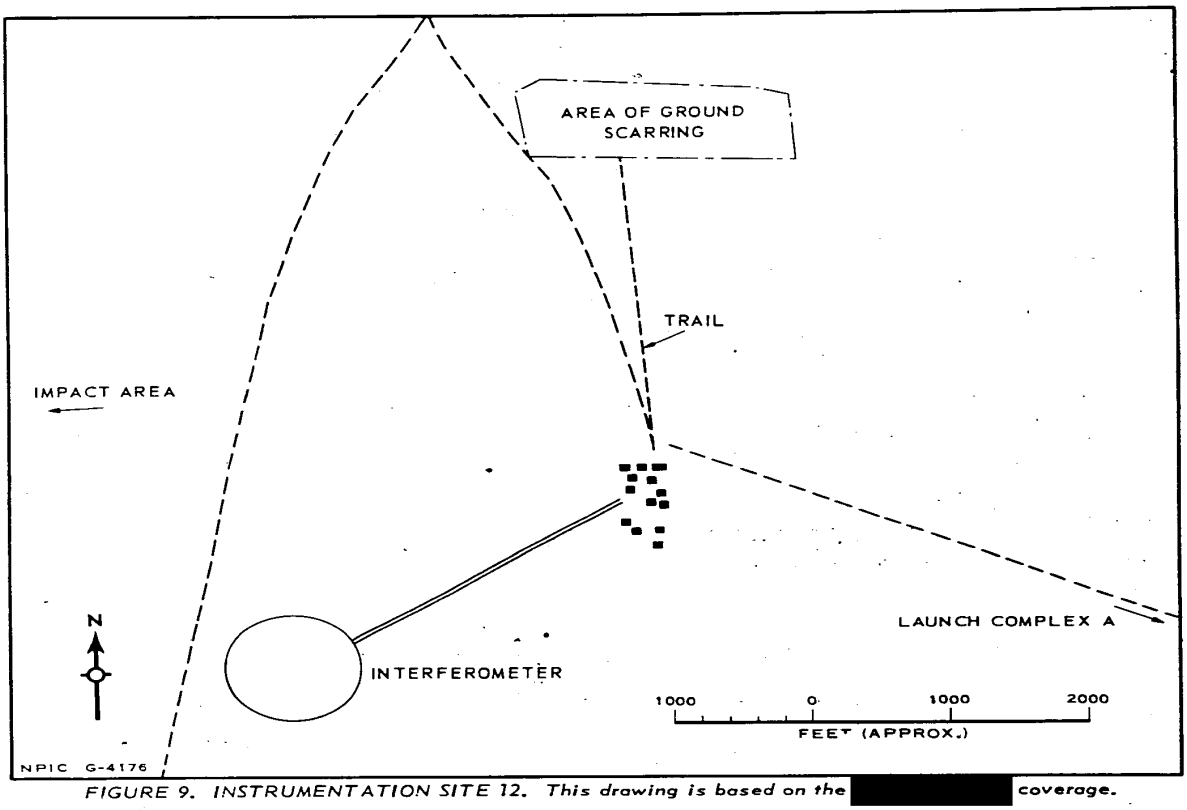

FIGURE 9. INSTRUMENTATION SITE 12. This drawing is based on the [redacted] coverage.

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IMPACT AREA

The instrumentation sites circumscribe an area approximately 100 by 75 nautical miles which has been designated the Impact Area (see Figure 1). Numerous roads and trails wind across the area, but no facilities have been identified within its boundaries, which are delineated by the main road network. The area was scanned for any scars or marks on the ground or snow which might indicate actual impact, but the small scale of the photography precludes any such detailed interpretation.

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LOCATIONS OF MAJOR FACILITIES

Precise locations of major facilities in the Sary Shagan Antimissile Test Complex based on KEYHOLE and TALENT photography are as follows.

Facility	Coordinates
Airfield	46-02N 73-30E
Dirt Strip	45-56N 73-27E
Communications Site 1	46-03N 73-36E
Communications Site 2	45-54N 73-37E
Communications Site 3	46-02N 72-09E
Radar Site 1	45-59N 73-39E
Radar Site 2	45-56N 73-38E
Instrumentation Site 1	45-54N 73-38E
Instrumentation Site 2	45-48N 73-35E
Instrumentation Site 3	45-40N 72-34E
Instrumentation Site 4	45-58N 72-16E
Instrumentation Site 5	45-51N 71-23E
Instrumentation Site 6	46-15N 70-58E
Instrumentation Site 7	46-36N 70-50E
Instrumentation Site 8	46-54N 70-55E
Instrumentation Site 9	46-50N 71-55E
Instrumentation Site 10	46-55N 72-34E
Instrumentation Site 11	46-39N 72-37E
Instrumentation Site 12	46-24N 72-34E
Launch Complex A	46-23N 72-52E
Launch Complex B	45-59N 72-33E
Possible SAM site (Balkhash coast)	45-49N 73-36E
SAM site (near airfield)	46-05N 73-31E
SAM site (Complex A)	46-22N 72-52E
SAM site (Complex B)	45-59N 72-33E

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REFERENCES

PHOTOGRAPHY

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CIA. PIC/JR-1010/61, Antimissile Complex, Sary Shagan, USSR, Apr 61 (S/Noforn [redacted] -- Downgrading Prohibited)